PRESIDENCY UNIVERSITY
BENGALURU

SET B

SCHOOL OF ENGINEERING
END TERM EXAMINATION - JAN 2024

Semester : Semester III - 2022
Course Code : CIV2041
Course Name : Fundamentals of Smart City
Program : B.Tech.

Date : 10-JAN-2024
Time : 9:30AM - 12:30 PM
Max Marks : 100
Weightage : 50%

Instructions:
(i) Read all questions carefully and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and non-programmable calculator are permitted.
(iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS   **4 X 5M = 20M**

1. Smart Cities require the use of sensors to provide more granular information about its hard assets, the environment, and the utilization of services. Recent research has shown that adding sensors can provide demonstrable benefits. What are the key challenges of smart cities?

    (CO1) [Knowledge]

2. Cognitive systems combine machine learning with the ability to interact via natural language and create insight from massive amounts of data. Why cognitive computing can be called as Disruptive technology?

    (CO1) [Knowledge]

3. Decentralization is not a new concept. It is the restructuring or reorganizing of authority in the institutions of governance. What are the limitations of Decentralization

    (CO3) [Knowledge]

4. Public-private partnerships(PPPS)are cooperative arrangements between the public sector (government) and the private sector (businesses or non-profit organizations) to finance, design, implement, and operate projects and services that were traditionally provided by the public sector alone. Write about the various types of PPPS.

    (CO3) [Knowledge]

PART B

5. Smart city encompasses a vision of an urban space that is ecologically friendly, technically integrated and meticulously planned with a particular reliance on the use of information technology to improve efficiency. Explain the Building blocks of digitalization.

(CO1) [Comprehension]

6. The city can be intended as a dynamically and complex system that evolves in space and time following trajectories that are hard to predict . These characteristics of complexity and dynamic evolution have represented the main critical factors for town planning, generally involved in drawing up forecasts – closed and static – of the future urban layout. It is thus necessary to draw up new theories of town planning that consider the systemic vision. Discuss the planning approach in smart cities.

(CO2) [Comprehension]

7. The transformation of cities into smarter and more sustainable environments is a current reality that's significantly reshaping urban living. Enhanced mobility, energy-efficient infrastructures, smart governance, intelligent urban planning and prioritized citizen well-being are leading the way to a sustainable urban future. Discuss about Urban consultation Process.

(CO2) [Comprehension]

8. Each smart city will have a Special Purpose Vehicle which will be headed by a full time CEO and have nominees of Central Government, State Government and ULB on its Board. Explain about Special Purpose Vehicle.

(CO3) [Comprehension]

9. Decentralization is the sharing of power and resources in a political-administrative and territorial hierarchy. Depict the Administrative decentralization.

(CO3) [Comprehension]

PART C

10. Smart city Mission was launched by Prime Minister Shri Narendra Modi on 25 June, 2015. Smart city is a technologically modern urban area that uses different types of electronic methods and sensors to collect specific data. Information gained from that data is used to manage assets, resources and services efficiently; in return, that data is used to improve operations across the city. Illustrate the smart city proposal of Ahmedabad city.

(CO2) [Application]

11. The key point in waste management for smart cities is that municipalities who are responsible for waste management in cities have various needs, and latest technologies present efficient and proper waste management solutions for sustainable municipal waste management. Present about automated waste collection system and aims of the smart solid waste management system.

(CO1) [Application]